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New inhibitor of inflammatory factor, containing polysulfide derivative, used as pharmaceuticals, cosmetics or food and drinks

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Alerting Abstract JP A

NOVELTY - New inhibitor of inflammatory factor comprises polysulfide derivative (I)-(III), their free bodies, their salts, their esters or their solvates as active ingredient.

DESCRIPTION - New inhibitor of inflammatory factor comprises polysulfide derivative of formula X1-S-(S)g-X2 (I), X3-S-(S)h-X4 (II) or (III), their free bodies, their salts, their esters or their solvates as active ingredient.

g, h= 1-3;

k, l, m= 2-10;

X1, X2= phenyl, benzyl, naphthyl or heterocycle containing base, etc.;

X3, X4= 1-20C alkyl, 7-16 aralkyl, 3-20C cycloalkyl, etc.;

X5, X6= phenyl, benzyl, naphthyl, etc.;

R1, R2= H, phenyl, benzyl, benzoyl, 1-20C alkyl, etc.

ACTIVITY - Antiinflammatory.

MECHANISM OF ACTION - Inflammatory factor inhibitor.

To human epidermal cells in cultured plates were added sample compounds, and 18 hours later, the cultured solutions were substituted with the medium without containing phenol red. The cells were irradiated with UV (UVB:40 mJ/cm<sup>2</sup>), and 4 or 5 hours later, the irradiated cells were recovered to extract nuclear protein, from which activated NF-kappaB was detected by gel shift assay. NF-kappaB was determined by measuring the level of the radioactive of NF-kappaB band. The results were that all inhibitors of inflammatory factor had inhibitory activity of NF-kappaB even with low concentration, compared to pyrrolidine dithiocarbamate.

USE - The inhibitor of inflammatory factor is used for treating the mammals affected by the diseases caused by inflammatory factor activity, or prevention, improvement and/or treatment of inflammatory diseases (claimed).

ADVANTAGE - The inhibitor remains on skin efficiently and gives good feeling when applied, so that it is suitably used as cosmetics or medicine such as dermatological preparation. Polysulfide derivative as active ingredient also includes novel polysulfide derivative and its new preparation is also introduced.

07325309 INHIBITOR TO ACTIVATION OF INFLAMMATORY FACTOR, USAGE THEREOF AND NEW  
POLYSULFIDE DERIVATIVE USABLE FOR THE SAME

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#### ABSTRACT

**PROBLEM TO BE SOLVED:** To provide an inhibitor to activation of an inflammatory factor inhibiting expression of an inflammatory protein and activation of a related gene transcriptional regulatory factor and useful for preventing, improving and/or treating a disease relating to the activation of the inflammatory factor, skin injury or a disease, a method of inhibiting the activation of the inflammatory factor by using the inhibitor to the activation of the inflammatory factor, and a medicinal preparation (an external skin preparation, an eye lotion medicine, a nutrient preparation, a transfusion preparation and the like) as a specific application of the inhibitor to the activation of the inflammatory factor, a cosmetic, a food, a drink and the like.

**SOLUTION:** The excellent inhibitor to activation of an inflammatory factor solving the issues is provided by using a specific polysulfide derivative (any form such as a free form, a salt, a solvate, an ester form or the like is available) containing a disulfide derivative as an active component. The inhibitor is suitably usable for a method of inhibiting the activation of the inflammatory factor, a medicinal preparation as a specific application, a cosmetic, a food, a drink and the like. A new disulfide derivative is contained as the specific polysulfide derivative used as an active component, and a new derivative and a method for producing the same is also provided.